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The ST-36 Acupressure Increased Gut Motility To Sectio Caesarea Patients with Subarachnoid Block Anesthesia

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ABSTRACT

Postoperative patients with Subarachnoid Block anesthesia will experience paralytic ileus. Various efforts to overcome this have been carried out, including early mobilization, chewing gum, warm compresses, and acupuncture. The actions taken have not yet shown maximum results. This study aimed to analyze the effect of ST-36 acupressure on gut motility and flatus time in postoperative patients with Subarachnoid Block anesthesia. This research used Quasi-Experiment with pretest-posttest group design. Population in this research was post operation patient with Subarachnoid Block anesthesia in Sidoarjo Hospital. A sample of 14 respondents in control group and 14 respondents in experimental group were obtained using purposive sampling technique. Data retrieval was done by criteria using lidodex 100mg/2ml anesthetic or 5% lidocain + adrenaline. Data were analyzed using independent t test. The result showed that there was difference average frequency of gut motility between control group and experimental group after given intervention ST-36 acupressure (p=0.013). The time of flatus showed that there were no significant differences in the two groups (p = 0.262). It can be concluded that ST-36 acupressure can increase gut motility, whereas it did not affect flatus time.

Keywords: *Gut Motility; ST-36 Acupressure; Subarachnoid Block; Sectio Caesarea.*

Introduction

Subarachnoid Block (SAB) anesthesia is usually used in lower abdominal surgery, inguinal areas, perineum, and lower extremities.[1] Spinal anesthesia slows gastrointestinal motility and causes nausea. Decreased gastrointestinal motility can lead to paralytic ileus, which results in gas accumulation and abdominal distension.[2] Intestinal manipulation during surgery, reduced immobilization and oral intake can all affect bowel function. Normal intestinal peristalsis will disappear within a few days, depending on the type and duration of surgery.[3] The intestine will return to normal activity and function after the effects of the anesthetic are gone.[4]

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Flatus is an important indicator in restoring postoperative bowel function. Recovery of intestinal motility is the initial stage in post-surgery; bowel motility returns within 24-48 hours and the motility of the colon recovers within 3-5 days.[5]randomized, controlled trial design. An urban medical center in Taiwan. 60 patients with colorectal cancer who had undergone abdominal surgery.\\n\\nMETHODS: Patients were randomly assigned to two groups, the ST-36 acupressure group (n = 30 Patients who have not recovered their intestinal peristalsis after anesthesia can suffer from obstructive ileus or intestinal obstruction if, at that time, they are given food intake.[3] Therefore, patients often complain because they have to wait a long time to be able to eat and drink, so that the patient as to endure lengthy hunger and thirst.[6]

Based on a preliminary study in Rahman Rahim Sidoarjo Hospital from medical records, it was found that data on patients who were operated on using Subarachnoid Block anesthesia during 2014 obtained from medical records showed 706 patients with ages ranging from 13 to 76 years. The average patients numbers

in January to March 2015 obtained 40 patients who were operated on using Subarachnoid Block anesthesia. In 50% of patients, the return of flatus time was <24 hours, 37.5% of patients at flatus return within 24-48 hours and 12.5% ?? of patients with flatus within> 48 hours. When the patient's hemodynamic status is stable, the patient will be encouraged to mobilize to stimulate his intestinal peristalsis. Based on existing data, there were about 88 patients experiencing prolonged recovery of intestinal peristalsis in one year.

Various efforts have been developed to overcome this, including early mobilization, chewing gum, warm compresses, and electroacupuncture use.[7,8] The results of previous studies indicate that acupressure in ST-36 (Zusanli) was able to accelerate first flatus time, oral fluid intake, and improve postoperative gastrointestinal function.[5] An urban medical center in Taiwan. 60 patients with colorectal cancer who had undergone abdominal surgery. Patients were randomly assigned to two groups, the ST-36 acupressure group (n = 30 Other supporting research proved that there were differences in the acceleration of recovery time of gastrointestinal motility in patients post-colorectal surgery performed by electro-acupuncture (EA) on ST-36.[7] Point ST-36 is a body acupuncture point that has a strong effect; this point is able to improve the immunological response and endurance.[9]

Various studies have been conducted to accelerate intestinal motility repair due to the action of anesthesia, for example by acupuncture and electro-acupuncture. However, this therapy is not a convenient therapeutic procedure, because it uses invasive techniques and must be carried out by trained experts. However, there are other alternative techniques, such as therapy that is more easily applied, namely acupressure. Acupressure is a Chinese medicine therapy and has the same basic principles as acupuncture treatment. Acupressure is a non-invasive, safe therapy, and one of the therapeutic techniques that is easy to do using only fingers, elbows or blunt tools, such as wooden sticks, so that patients will feel more comfortable when given therapy.[10] Based on the above phenomenon, the researchers were interested in conducting a study of the effect of ST-36 acupressure to improve intestinal motility and flatus time postoperative patients with Subarachnoid Block anesthesia.

Method

Study Design, Setting, and Sampling: The research design used was Quasi-Experiment with the design of the pretest posttest group in postoperative patients under Subarachnoid Block anesthesia. The population in this study was all postoperative patients with Subarachnoid Block anesthesia in Hospital Sidoarjo. The sample of 28 postoperative patients with Sectio Caesarea under Subarachnoid Block anesthesia consisted of 14 treatment group respondents and 14 control group respondents who were recruited by purposive sampling technique. The sample was recruited using the criteria between 18 years and 55 years old, using lidodex 100mg/2ml anesthetic or 5% lidocain + adrenaline, surgery in the abdominal area, and the body area to be stimulated (akupresure ST-36) does not experience injury, swelling or fracture. The treatment group received ST-36 mobilization and acupressure intervention, while the control group received hospital standard intervention, namely mobilization. The study was conducted May 17 to June 11, 2015.

Study Variables: The independent variable is ST-36 acupressure given by the researcher to patients with reference to the module. The parameters of the ST-36 acupressure module are massage performed at the ST-36 meridian point, which is four fingers under the patella and one thumb wide outward from the shin. Massage time three minutes with 1-1.5cm on both feet. Massage twice, first after the patient's hemodynamic status is stable and eight hours later. The dependent variable was intestinal motility and flatus time. which was assessed by observation before the action (pretest) and after the action (posttest). Gut motility observation by researchers was done using a stethoscope. Observation of flatus time was carried out by the researcher by asking the patient what time was flatus. Observation of the pretest was carried out after the patient was transferred to the inpatient room, that is, after completion of the recovery room or when the patient's condition was stable (about one hour in the recovery room). Observation of posttest was carried out after eight hours of pretest and given ST-36 acupressure.

Data Analysis: This study uses descriptive analysis carried out using the number of frequencies and percentages for categorical data and the mean, median, and standard deviation used for numerical data. Analysis of the main data used the independent t test with a significance level of $p < 0.05$.

Results

The results of the research in Table 1 show that, out of 28 respondents, there are six early adult respondents (26-35 years) in the treatment group and eight respondents in early adulthood in the control group. Regarding the proportion of respondents' weight in the treatment group and the control group, the majority of weight was between 51-60 kilograms (78.6 % and 92.9%, respectively). In addition, most of the respondents in the treatment and control groups were housewives (57.1 % and 50%, respectively).

The mean frequency of intestinal motility pretest in the treatment group was no better than the control group (Table 2). Standard deviation of intestinal motility pretest in the treatment group was more homogeneous than in the control group. The independent t test results obtained p value = 0.803, which means there was no significant difference in the value of intestinal motility pretest respondents in both groups (same condition). The first test in the treatment group had a slightly less good intestinal motility (4.79 x/minute) compared to the control group, which was 3.29 x/minute. Specifically to answer the purpose of research, statistical results obtained independent t test with p = 0. 013, which means there is a significant difference test value of post-intestinal motility of respondents in both groups. In addition, the average flatus time in the treatment group was better (22.86 hours), while, in the control group, it was 26.64 hours. Independent t test results obtained p value = 0.262; it can be interpreted that there is no significant difference between flatus time in the treatment group and the control group.

Table 1: Data on patient characteristics (N = 28)

Characteristics	Treatment Group n (%)	Control group n (%)
Age		
1 7 -2 5 years	6 (42.9)	4 (2 8.6)
2 6 -3 5 years	6 (42.9)	8 (57.1)
3 6 -4 5 years	1 (7.1)	1 (7.1)
4 6 -5 5 years	1 (7.1)	1 (7.1)
Weight		
4 1- 50 kilogram	2 (14.3)	0 (0)
51 - 60 kilogram	11 (78.6)	13 (92.9)
61 - 70 kilogram	1 (7.1)	1 (7.1)

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Work		
Housewife	8 (57.1)	7 (50)
Civil servants	3 (21.4)	5 (35.7)
Private employees	2 (14.3)	2 (14.3)
Entrepreneur	1 (7.1)	0 (0)

Table 2: Data on intestinal motility and time of flatus patients and the results of statistical analysis (N = 28)

Category	Treatment Group		Control group	
	Pre	Post	Pre	Post
Intestinal motility				
Mean	0.64	4.79	0.57	3.29
Median	1.00	5,00	0.00	3.50
Standard deviation	0.633	1,251	0.852	1.684
Independent t test (pre pre)	p = 0.803			
Independent t test (post-post)	p = 0.013			
Time flatus				
Mean	22.86		26.64	
Median	23.00		24.50	
Standard deviation	6.262		10.638	
Independent t test	p = 0.262			

Discussion

The results showed that the intestinal motility of respondents in the treatment group experienced a significant increase after ST-36 acupressure was given compared to the control group respondents. The results of this study are in line with previous studies which stated that ST-36 acupressure can improve gastrointestinal function in postoperative patients with colorectal cancer.[5] An urban medical center in Taiwan.\\n\\nSAMPLE: 60 patients with colorectal cancer who had undergone abdominal surgery.\\n\\nMETHODS: Patients were randomly assigned to two groups, the ST-36 acupressure group (n = 30 This condition occurs because the digestive tract in postoperative patients will move slowly due to side effects of anesthesia, where, when anesthesia occurs paralysis, the digestive muscles need time to adapt again.[11] Physiologically, P increased frequency of bowel

motility is meaningful because the drug's effectiveness has been declining over time. When the work of the drug ends, the inhibition of spinal stimulation begins to decrease and the lower digestive muscles begin to work, which is characterized by an increase in the frequency of bowel sounds, reduced nausea, flatus and bloating does not exist.[12] The results of this study indicate that physiological processes can be traversed rapidly because ST-36 acupressure can stimulate the hypothalamus for acetylcholine mesecretion and substance P. These substances play a role in the muscle movements of the gastrointestinal system so that it stimulates intestinal motility.[10]

Return of the function of intestinal motility in postoperative patients can be influenced by several factors, including age, gender, type of surgery, weight and work or activity. The results showed that the factors that influence the return of patients' intestinal motility function are homogeneous. Regarding age of respondents in both groups, including young adults, where age indicates good development of the gastrointestinal system, movement of intestinal motility decreases with increasing age and slows down esophageal emptying.[13] Meanwhile, the sex and type of surgery are each only one criterion, namely, all female sex and surgery performed by sectio caesarea. The type of operation equation does not show differences in the dosage of anesthesia given, so that the length of recovery time of the gatrointestinal system is generally the same.[11]

Another factor is weight, where b is closely related to the effectiveness of acupressure. Acupressure ST-36 is performed by the therapist's hand so that the thicker the fat layer of the patient, the depth and strength of the emphasis will be different.[14] In addition to body weight, in this study the activity of respondents was associated with the type of work. Aktivitas will influence the physiological function of organs, whereby a person who often moves his organs will function better than the rare mover.[15] Other physiologists also show that blood circulation in the gastrointestinal tract and the lining of the intestinal wall is directly related to the level of activity. Motor, secretory and absorptive functions will increase after activity, as well as gastrointestinal circulation.[15]

Other research results are that there was no effect of ST-36 acupressure on flatus time between the treatment group and the control group. This situation is possible because, in both group, there were several respondents who had intestinal motility at the time of post-surgery. This situation is in accordance with Home Visits which states that the factors affecting the occurrence of flatus include intestinal peristalsis, the contraction of the muscles of the abdomen and eating.[16] The results also showed that almost all patients had normal amount of intestinal motility, between 5-35 x/minute; this was directly proportional to the increase in intra-abdominal pressure. Intestinal peristaltic movements also make the space become pressurized, thus, forcing the contents of the intestine, including the gas inside, to move toward a lower pressure, which is to around the anus.[16] Flatus occurs when there is a peristalsis where gas is pushed into the rectum, resulting in increased pressure in the rectum and causing the sphincter to relax and occur flatus.[15] After surgery, patients can first drink a little water, then can eat porridge and, if they can dispose of the wind the next day, then they can eat rice.[17] The contents of the intestine are the main stimulus for the occurrence of product contractions and flue gas puts pressure on the walls of the colon.[13]

Conclusion

ST-36 acupressure can accelerate the increase in the amount of intestinal motility in postoperative patients under Subarachnoid Block anesthesia. The first flatus time in postoperative patients with Subarachnoid Block anesthesia was not proven to be accelerated by ST-36 acupressure. This therapy is expected to be collaborated with mobilization to get more optimal results, namely, accelerating the return of intestinal motility and flatus time. The main implications for nursing practice from this study were improving services and alternative therapies for returning intestinal motility and flatus time. Subsequent research related to the effect of ST-36 acupressure on intestinal motility and flatus time is expected to be carried out in postoperative patients with general anesthesia.

Ethical Clearance: The ethical approval for this study was granted by the IRB committee of the Faculty of Public Health at the Airlangga University in 2015.

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